REMARKS

Claims 1-30 are currently pending in the subject application and are presently under consideration. Claims 1, 2, 6, 11-25, and 27 have been amended, and such amendments do not narrow the scope of these claims. Claims 28-30 have been newly added to more emphasize various novel aspects of the applicants' invention. It is respectfully submitted that these newly added claims do not raise new issues requiring undue search or consideration, and entry thereof is requested. A listing of all claims is at pages 2-7. Applicants' representative notes with appreciation the indication that claims 12 and 25 recite allowable subject matter, and would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. It is believed such amendments are not necessary in view of the below-noted deficiencies of the cited art *vis-à-vis* the claimed invention. However, applicants' representative reserves the option to recast these objected to claims in independent form at a later date if necessary.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claim 6 Under 35 U.S.C. §112

Claim 6 stands rejected under 35 U.S.C. §112 for a minor informality. This claim has been amended herein to cure such informality, and withdrawal of the rejection is respectfully requested.

II. Rejection of Claims 1-22 and 24-26 Under 35 U.S.C. §101

Claims 1-22 and 24-26 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Withdrawal of this rejection is respectfully requested for at least the following reasons. Independent claims 1, 11 and 24 have been amended herein to emphasize that the invention relates in large part to *practical* computer-implemented method(s) and/or system(s) that *produce a useful, concrete and tangible result.*

> Because the claimed process applies the Boolean principle [abstract idea] ***to produce a useful, concrete, tangible result*** ... on its face the claimed process comfortably falls within the scope of

PAGE 8/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

> §101. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999) (Emphasis added); *See State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998). The inquiry into patentability requires an examination of the contested claims to see if the claimed subject matter, as a whole, is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept has been ***reduced to some practical application rendering it "useful."*** *AT&T* at 1357 *citing In re Alappat*, 33 F.3d 1526, 31 1544, 31 U.S.P.Q.2D (BNA) 1545, 1557 (Fed. Cir. 1994) (Emphasis added) (holding that more than an abstract idea was claimed because the claimed invention as a whole was directed toward forming a specific machine that produced the useful, concrete, and tangible result of a smooth waveform display).

In the Office Action dated May 11, 2004, it is contended that "claims 1, 11, and 24 represent mere ideas in the abstract since it does not comprise physical means on a tangible medium to carry out the process. Claims 1, 11, and 24 have been amended herein to emphasize that the invention is computer-based. Furthermore, the Office Action contends that claim 1 recites acts that do not produce a useful, concrete, and tangible result. However, contrary to such contentions, the specification provides examples of practical applications along with explanations illustrating usefulness of the invention. The specification discloses that the invention *identifies a sub-population of a group to solicit* and *soliciting this group to maximize expected increase in profits*, which is a ***useful, concrete, and tangible result.*** (See pg 3, paragraph [0008]). For example, an advertiser's goal of selling the most items at the highest price is consistent with maximizing the advertiser's expected increase in profits. The model is likely to not recommend soliciting an individual who will never buy or is already interested in buying because it will decrease profits. (*See* pg 4, paragraph [0011])

In view of the above, it is readily apparent that the claimed invention reduces to a practical application that produces a useful, concrete, tangible result; therefore, pursuant to *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999) - the subject claims recite an invention with patentable utility pursuant to 35 U.S.C. §101. Accordingly, this rejection should be withdrawn.

PAGE 9/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

III. Rejection of Claims 1 and 10 Under 35 U.S.C. §103(a)

Claims 1 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tom (US 5,696,907). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Tom does not teach or suggest each and every limitation of applicants' claimed invention.

> To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *See In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Independent claim 1 recites ***identifying the sub-population to solicit by using a computer-implemented decision theoretic model, the decision theoretic model constructed to maximize profit.*** The claimed invention identifies which subset members of a population should be solicited and which should not be solicited for the purpose of maximizing profit, based on how solicitation influences the member's buying decision. The claimed method minimizes solicitation of members who will not make a purchase, who are already planning on buying, and/or who planned on buying but will not buy if solicited, thereby reducing cost of solicitation. The method also increases solicitation to a subset of members who will buy if solicited, thereby maximizing purchases.

Tom does not teach the aforementioned aspects of applicants' invention as recited in the subject claims. Rather, Tom describes analyzing *applications that have been submitted* for financial services to identify factors in applications that are likely to result in a loss. Tom uses this analysis for the purpose of determining which factors to use in rejecting and accepting applications to minimize loss. Contrary to assertions in the Office Action, minimizing loss is not analogous to maximizing profit. Maximizing profit results from maximizing purchases and

PAGE 10/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

minimizing loss/costs. Furthermore, Tom does not describe ***identifying and soliciting the sub-population identified*** as recited in the subject claim. The Examiner cites performance of risk and credit analysis of financial service applications represents such solicitation. However, Tom uses this risk/credit analysis in connection with determining factors that may be relaxed for rejection or acceptance of the financial service applications. Tom does not teach or suggest ***using a decision theoretic model in connection with identifying a sub-population to solicit so as to maximize an expected increase in profits*** as in applicants' claimed invention.

In view of at least the above, it is respectfully submitted that Tom does not make obvious the subject invention as recited in independent claim 1 (and claim 10 dependent there from). Accordingly, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 2-4, 6, and 8 Under 35 U.S.C. §103(a)

Claims 2-4, 6, and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tom as applied to claim 1 above, and further in view of Kohavi (US 6,182,058). It is respectfully requested that this rejection be withdrawn for at least the following reasons. Neither Tom nor Kohavi teach or suggest each and every limitation of applicants' claimed invention.

The subject claims respectively depend from independent claim 1, and Kohavi does not make up for the aforementioned deficiencies of Tom regarding claim 1. Moreover, as discussed below, Kohavi is deficient regarding the assertions made in connection with various limitations of the subject dependent claims.

Claim 2 recites ***using a decision theoretic model using a decision tree.*** A decision tree as described in applicants' claimed invention is constructed *via* an iterative process. As conceded in the office action, Tom does not teach using a decision tree. Tom states "using a neural network that is *not computationally intensive*" and explicitly describes that the neural network is optimized by a *non-iterative* regression process, and therefore teaches away from applicants' claimed invention. *See In re Dow Chemical Co.*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988) ([T]eaching away from the art of the subject invention is a *per se* demonstration of lack of *prima facie* obviousness). Therefore, there is no motivation provided to combine Tom with Kahavi.

Furthermore, claim 2 recites the ***plurality of paths having a split on a solicitation variable***. Neither Tom nor Kohavi teach or suggest a solicitation variable used to maximize profits as

PAGE 11/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

described in applicants' claimed invention. Kohavi describes a classifier that can be used to send marketing campaign mail to people who are likely to respond. Likeliness to respond is not analogous to maximizing profits. The response may actually decrease profits by providing a discount to buyers who may have purchased at higher price, which is contrary to maximizing profits.

Claim 6 recites ***providing a value for a probability conditional on at least the purchase variable***. As conceded in the Office Action, neither Tom nor Kohavi teach or suggest a purchase variable.

In view of at least the foregoing, it is respectfully submitted that the combination of Tom and Kohavi do not make obvious the subject invention as recited in claims 2-4, 6 and 8. Accordingly, this rejection should be withdrawn.

V. Rejection of Claims 5, 7, 11, 13-24, 26 and 27 Under 35 U.S.C. §103(a)

Claims 5, 7, 11, 13-24, 26 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tom as applied to claim 1 above, and further in view of Kohavi, and Pilipovic (US 6,456,982). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Neither Tom, Kohavi, nor Pilipovic teach or suggest each and every limitation of applicants' claimed invention.

Claim 5 recites ***providing a value for a probability conditional on at least a purchase variable having a first value corresponding to purchase and a second value corresponding to non-purchase***. As conceded in the Office Action, neither Tom nor Kohavi teach or suggest a purchase variable having a first value corresponding to purchase and a second value corresponding to non-purchase. Applicants' claimed invention describes a purchase variable that is used to determine if a member of a population will make a purchase if solicited. The Examiner cites Pilipovic to remedy this deficiency, however, Pilipovic does not teach this aspect of the subject claim (let alone make up for the aforementioned deficiencies of the primary reference as applied to independent claim 1). Rather, Pilipovic describes a statistical model for pricing a financial product to determine if a buy, keep, or sell decision should be made for the product.

Claim 7 recites ***a purchase variable having a first value corresponding to purchase and a second value corresponding to non-purchase*** similar to claim 5. None of the cited references alone or in combination teach this limitation of the subject claim as described *supra*.

PAGE 12/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

Independent claims 11 and 24 recite ***to solicit to maximize an expected increase in profit*** and ***a decision tree as the decision theoretic model.*** As discussed *supra* with respect claim 1, Tom does not teach this limitation of the subject claim and neither Kohavi nor Pilipovic make up for this deficiency. Moreover, as noted above, Tom teaches away from employment of a decision tree. Furthermore, claims 11 and 24 recite ***a purchase variable having a first value corresponding to purchase and a second value corresponding to non-purchase.*** Neither Tom, Kohavi, nor Pilipovic teach this limitation of the subject claim as discussed in claim 5.

Claim 13 recites ***construction of the decision tree comprises using a greedy approach.*** A greedy approach uses an iterative process of constructing the tree based upon comparison of predetermined scoring criteria for various tree constructs. The Office Action concedes that Tom fails to disclose this aspect of the subject claim. Kohavi is cited in an attempt to cure this deficiency; however, the cited reference merely describes a Naïve-Bayes decision tree structure. Kohavi does not describe or suggest employment of a greedy approach to constructing a decision tree as in applicants' claimed invention.

Claim 16 and 17 recite wherein the predetermined scoring criterion ***is a marginal likelihood criterion*** and ***is an adjusted marginal likelihood criterion*** respectively. The Office Action concedes that neither Tom, Kohavi, nor Pilipovic disclose these aspects of the subject claims. The Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use ***a marginal likelihood criterion*** or ***an adjusted marginal likelihood criterion*** as in applicants' claimed invention. Applicants' representative respectfully avers to the contrary, and requests that the Examiner produce a reference in support of such Official Notice pursuant to MPEP §2144.03, or in the alternative withdraw this rejection.

Claim 22 recites ***soliciting the sub-population identified.*** As discussed earlier in claim 1, Tom does not teach this limitation of the subject claim and neither Kohavi nor Pilipovic make up for this deficiency.

In view of at least the above, it is respectfully submitted that Tom does not make obvious the subject invention as recited in claims 5, 7, 11, 13-24, 26 and 27. Accordingly, withdrawal of this rejection is respectfully requested.

PAGE 13/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

VI. Rejection of Claim 9 Under 35 U.S.C. §103(a)

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tom as applied to claim 1 above, and further in view of Amado (5,701,400). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Neither Tom nor Amado teach or suggest each and every limitation of applicants' claimed invention.

Claim 9 depends from claim 1 and Amado does not make up for the aforementioned deficiencies of Tom with regards to claim 1. Accordingly, withdrawal of this rejection is respectfully requested.

PAGE 14/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36

CONCLUSION

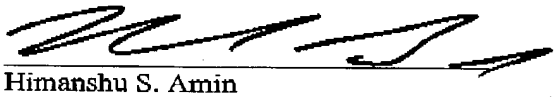
The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

AMIN & TUROCY, LLP



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PAGE 15/15 * RCVD AT 7/26/2004 4:53:22 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:216 696 8731 * DURATION (mm-ss):04-36